**CHEMISTRY 110 Lab – Spring 2020**

**Course # CHE 110- (Lab)**

**Instructor:**

**Lab:**

**Office Hours:**

You are also encouraged to post questions you may have on the appropriate Blackboard Discussion Forum which you can consider to be extra virtual office hours.

**E-Mail:**

**School Address:** 275 Mount Carmel Avenue Hamden, Connecticut 06518

**Prerequisites:** A math placement score of 3 or higher is required to enroll in CHE Lecture.

(Students with scores below 3 must complete recommended math courses to improve proficiency in algebraic skills before enrolling in CHE 110.)

(Note: This course is designed for science majors.)

**REQUIRED MATERIALS:**

* Approved safety goggles
* Approved clothing (see Laboratory Safety Rules)
* An approved lab notebook capable of carbon-copying
* Laboratory Manual for the Course which is available from the Campus Bookstore
* A pen (pencil is NOT to be used in the lab\_notebook at any time)
* A calculator

**CATALOG DESCRIPTION**:

The CHE 110-111 laboratory sequence is designed to give students the opportunity to examine the principles and applications of general chemistry which are discussed in the accompanying CHE110-111 lecture sequence. The lecture-lab combination is interrelated. Therefore, **it is strongly recommended** that students who withdraw from the lecture also withdraw from the lab. Successful completion of the CHE110 lecture-lab combination is **required** for enrollment into the CHE111 lecture-lab course.

**EXPERIMENTS**

The schedule of experiments and dates are provided. To prepare for the experiments, you must read the material thoroughly and answer pre-lab questions in your notebook BEFORE coming to the laboratory. The lab' experiments have been chosen to correlate with topics in CHE 110-111 lecture, so use your textbook as a reference source.

**LAB ATTENDANCE**

It is expected that all students will meet their weekly laboratory obligations. These rules have been formulated to encourage all students to attend their assigned lab sections, properly prepared to perform the lab experiment assigned for that week.

**Make-up labs** are available **only** to students who are absent due to a documented illness, i.e., student has visited the infirmary, a doctor, etc., or due to a documented scheduling conflict such as a university athletic event. Staying in your room when you don't feel well is **not** a documented illness. You need to visit Health Services or get a note from your doctor when you feel ill to document your illness.

**Approval to make-up a lab** must be obtained from the lab coordinator. Dr. Jennifer Cruz. In the event of an illness, contact Dr. Cruz by e-mail as soon as possible. In the case of a scheduling conflict due to sports or professional meetings contact Dr. Cruz, a minimum of one week in advance. The e-mail address is: [Jennifer.Cruz@quinnipiac.edu](mailto:Jennifer.Cruz@quinnipiac.edu). The e-mail should include: 1) your name, 2) day of the week, time, and date of lab you missed (or will miss), 3) name of your instructor, 4) your reason for missing lab and 5) your first and second choices for the make-up lab. **All of this information must be in your e-mail.** Chemistry 110 labs are held only on Mondays during the Spring from 10am-12:50pm, 3pm-5:50pm, and 6:30pm- 9:30pm.

Dr. Cruz will determine if the situation and the documentation submitted, warrants approval for a make-up. If approved, she will assign the student a make-up lab time during the week of the actual experiment based on space availability and the student's class schedule, and will provide notification to both the student's regular and make-up lab instructor. Without such approval, no make-up will be made available and will result in a zero for that lab experiment. Make-up labs can't be performed anytime after the week, during which, the lab is done. Make-up labs must be done only on the Monday the specific lab is conducted.

**MISSED LABS**

Sometimes protracted illnesses or special circumstances will cause a student to miss a lab legitimately. In this circumstance the student is excused from having to perform that lab. A write up of a lab may still be required; but the student is not required to perform the lab. **However, if a student misses four or more labs throughout the semester, that student cannot receive credit for having completed the laboratory course, even if the absences are excused and legitimate.** Laboratory science, by its nature, requires students to be present performing the lab to get credit and complete the laboratory course. Lab courses are different from lecture courses; students must be present in order to complete the lab.

**Late arrivals** (students who arrive more than ten minutes late for a lab) will not be allowed to perform the experiment. A student who arrives late will not be allowed to make-up the lab and will be given a "0" for that lab as well as a "0" for a missed quiz.

**LAB PREPARATION**

It is the responsibility of students to arrive to lab properly prepared. This includes bringing safety goggles, a pen, a calculator, and an official lab notebook containing the appropriate write-up for that day's experiment. Failure to be properly prepared will result in a zero for that lab experiment, and opportunity for a make-up will not be given.

**Pre-Lab**

Complete your Pre-Lab before coming to the laboratory. Your lab instructor must check your Pre-Lab before you may begin the experiment. The Pre-Lab includes answering any Pre-Lab Questions, writing the Title, Purpose, and creating appropriate tables ready for data collection. **You do not have to write out procedure as part of the pre-lab.**

**Pre-Lab Lecture**

You are required to attend the weekly pre-lab lecture. Your lab instructor will discuss safety, procedures, and calculations needed to help you complete the experiment. **Most errors and delays in finishing the lab are directly attributable to not paying attention during the pre-lab lecture.**

**Late Lab Reports**

All lab reports are due at the start of the next scheduled meeting of the student's **regular** lab section. Late lab reports will be subject to a **25% (5 point) grade deduction (5% (1 point) off per day late)** Reports turned in more than one week late, will receive a grade of zero. To avoid receiving a zero, a late report must be turned in prior to the start of the next scheduled lab session.

**Lab Cleanup**

Before you leave the lab, you will be required to clean your station. This includes all of your glassware, equipment, tray, bench top, and your entire work area. Finding your lab area messy prior to the start of lab is not a legitimate excuse for not completely cleaning up your lab area at the end of lab. Your lab instructor will not sign you out of lab if your work area is not clean. This may also result in lowering the performance portion of your grade.

**Sign Out**

In order for you to be able to leave lab, your lab instructor must sign your lab notebook. Both you and your lab instructor need to sign and date your data sheets to validate that the data recorded corresponds to that done during the lab. If you leave the lab without your instructor's signature, this will result in a "0" for the lab.

**Help**

Ask for help when you are uncertain about a given procedure. Be safety conscious at all times. Your lab instructor is there to help you.

**COURSE GRADE**

Lecture Grade Distribution:

* GRADING SCALE:

|  |  |  |
| --- | --- | --- |
| **Letter Grade** | **Numerical Range** | **Grade Pt. Value** |
| A | 93-100 | 4.00 |
| A- | 90-92 | 3.67 |
| B+ | 87-89 | 3.33 |
| B | 83-86 | 3.00 |
| B- | 80-82 | 2.67 |
| C+ | 77-79 | 2.33 |
| C | 73-76 | 2.00 |
| C- | 70-72 | 1.67 |
| D | 60-69 | 1.00 |
| F | 0-59 | 0.00 |

**Activity Percentage**

* Lab Reports 65%
* Post-Labs & Quizzes 30%
* Lab Performance 5%

Total 100%

**CHE 110 Lab Schedule Spring 2020**

\*Lab quizzes are each worth 10 pts. The lowest lab score is dropped.\*

Labs do not meet during Finals Week.

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| --- | --- | --- |
| Date | Experiment | Point Value for Lab Report |
| 1/27 | Safety and Introduction to the Lab; Review of Sig. Figs and Dimensional Analysis | 20 |
| 2/3 | **Expt. 1**  Measurement and Introduction to Lab Equipment | 20 |
| 2/10 | **Expt. 2**  Separation Methods | 20 |
| 2/17 | **Expt. 3**  Determination of the Formula of a Metal Oxide | 20 |
| 2/24 | **Expt. 4**  The Determination of Salt Solutions by Density | 20 |
| 3/2 | **Expt. 5**  Precipitation Reactions and the Synthesis of Chalk | 20 |
| 3/9 | SPRING RECESS- NO LABS |  |
| 3/16 | **Expt. 6**  Determining the Molar Mass of an Unknown Acid by Titration | 20 |
| 3/23 | **Expt. 7**  Antacid Effectiveness by Back Titration | 20 |
| 3/30 | **Expt. 8**  Gas Law Experiment: Determination of the Molar Mass of a Volatile Liquid | 20 |
| 4/6 | **Expt. 9**  Using Calorimetry to Determine Specific Heat and Heat of Solution | 20 |
| 4/13 | **Expt. 10**  Enthalpy of Decomposition of Hydrogen Peroxide | 20 |
| 4/20 | **Expt. 11**  Spectrophotometric Determination of Blue Dye #1 in Consumer Samples | 20 |
| 4/27 | **Expt. 12**  Molecular Structures and Shapes | 20 |